

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE		PAGE OF PAGES 1 14	
2. AMENDMENT/MODIFICATION NO. 23		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)	
6. ISSUED BY John F. Kennedy Space Center, NASA Procurement Office – ODIN – OP-OS-ODIN Kennedy Space Center, FL 32899		CODE		7. ADMINISTERED BY (If other than Item 6) CODE			
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code) OAO Corporation 7375 Executive Place Seabrook, MD 20706-2278				(x)		9A. AMENDMENT OF SOLICITATION NO.	
						9B. DATED (SEE ITEM 11)	
						10A. MODIFICATION OF CONTRACT/ORDER NO. NAS5-98144/NNK05OA12D	
						10B. DATED (SEE ITEM 13) December 1, 2004	
CODE		FACILITY CODE					
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS							
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning ____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.							
12. ACCOUNTING AND APPROPRIATION DATA (If required)							

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: NAS5-98144 Contract Clause C.7 Technology Refreshment Process and FAR Clause 52.212-4 Contract Terms and Conditions-Commercial Items, (c) Changes
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

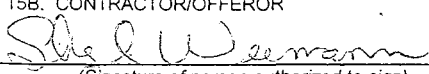
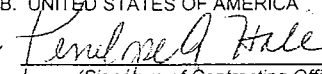
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Stennis Space Center --- ODIN SERVICES

Technology Infrastructures: Incorporation of 16 Infrastructure Upgrades Previously Approved Utilizing Fast Track Process

Change in Delivery Order Price: \$112,948.32 (INCREASE)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Sheryl K. Weimann Contracts Manager		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Penelope A. Hale Contracting Officer	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED 6/3/05	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)	16C. DATE SIGNED 6/8/2005

1. In accordance with Master Contract NAS5-98144, C.7, Technology Refreshment Process, the technology refreshment services referenced below is hereby incorporated into this Delivery Order at a fixed price of \$112,948.32.

Fast Track Approval Date	SWR/Subject	Amount
4/25/05	8800 EH02 01 Removal of wall mount cabinet and wiring for (15) jack locations from room 238C area in B1100 for MSS	\$ 1,273.79
5/13/05	CC00 2005 04 Install customer provided wire from room 192C to room 192 in B1100 to be used for computer and telephone in Hancock Bank	\$ 285.33
3/29/05	DB00 0559 00 Install two T1AX T1 circuits in B1201 and B3202 and install jack in B3203	\$ 1,905.21
3/28/05	J1R3 7098 03 Relocate fiber in B4110 for Rocketdyne due to removal of cabinets	\$ 1,829.88
4/4/05	NJ00 L5AD 00 Install two circuits cards in existing UMC chassis in B1201 and B1000	\$ 10,928.70
4/4/05	NJ00 L5AL 00 Install Cat5e wiring in B100, B1002, B1003 and B8100 to support NMCI printers.	\$ 5,269.69
5/6/05	NJ00 L5AM 00 Install (2) T1AX T1 circuit cards in room 116 of B1201 and (2) T1AX T1 circuit cards in room 112 of B1000 to extend (2) T1 circuits to room 211 in B1000 for NAVOCEANO to support networks	\$ 2,934.31
4/4/05	NM00 5R41 00 Install Cat6 wiring in B1100 South new addition to support the SIPR network for CNMOC.	\$ 6,749.69
5/10/05	P203 5221 03 Attendance of one (1) ODIN network person at Cisco Networks 2005 Conference in Las Vegas NV from June 19-24, 2005	\$ 1,947.10

Fast Track Approval Date	SWR/Subject	Amount
4/21/05	PTLC 7A97 00 Remove cabling and wiring from trailer located on north end of B4010 for MSS and take to Redistribution	\$ 508.85
4/20/05	PX00 054L 02 Install (2) Cat5e wires and jacks on the east wall of room 232A in B1100 for EPAGMPO	\$ 401.43
4/20/05	XJCY 5104 00 Install one 72 singlemode/12multimode fiber between B1100 South and B1201 to support telephone, networks, CATV, CCTV, fire alarm and EMCS services in B1100 South new addition for NASA	\$ 19,794.82
4/20/05	XK59 4TMP 11 Install (1) GFE 24 strand singlemode fiber cable from room 213 in B2204 through existing duct bank to room 115 of B2104. Install junction box and 4" EMT conduit on exiting rigid conduit coming from ground at B2104. NASA will provide 2750 ft of GFE 24-strand singlemode fiber cable, 1 each termination shelf and 1 pack 1000ST panels for termination shelf	\$ 9,212.79
4/20/05	XK59 5212 01 Install fiber from B2204 to B2201 to support security CCTV camera installation	\$ 26,554.47
4/19/05	XK59 5596 00 Install copper cable and fiber from B1201 to new Saturn guard gate to support telephone and CCTV for NASA	\$ 22,628.22
5/5/05	XK59 5TMP 06 Install (1) GFE managed network switch and removing unmanaged network switch in room 112 of B1201 for NASA security	\$ 724.04
	TOTAL	\$ 112,948.32

2. SWR 8800 EH02 01

The contractor shall provide the labor and materials necessary to remove wall mount cabinet and wiring for (15) jack locations from room 238C area in B1100 for MSS as outlined in OAO proposal dated March 24, 2005 as revised April 25, 05.

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Remove existing wall mounted equipment cabinet from room 238C.

- (2) Remove (2) Cat5 wires from (15) locations in the 238C area.
- (3) Remove (1) 4-fiber fanout cable from room 238C back to room 241.
- (4) Place blanks in faceplates where Cat5 jacks removed and leave telephone jacks.
- (5) Provide redline drawing with the jacks that are being removed marked up on drawing.

b. The contractor shall provide the following material:

- (1) 17 each Ortronics blanks (148027)

c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (April 26, 2005).5

3. SWR CC00 2005 04

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install customer provided wire from room 192C to room 192 in B1100 to be used for computer and telephone in Hancock Bank as outlined in OAO proposal dated May 11, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

- (1) Install (2) Cat5 wires and (1) Cat3 wire from room 192C out to room 192 and leave about 10 feet of slack on both ends.
- (2) Set up for asbestos and clean up afterwards. Dispose of suits properly.

b. No material is to be provided by the contractor. The customer will provide Cat5 wire and Cat3 wire.

c. Schedule: The completion of this effort shall be 2 week after receipt of Fast Track approval (May 13, 2005).

4. SWR DB00 0559 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install two T1AX T1 circuits in B1201 and B3202 and install jack in B3203 as outlined in OAO proposal dated March 7, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

- (1) Install (1) T1AX circuit card in existing UMC chassis in room 106 of B1201.
- (2) Install (1) T1AX circuit card in existing UMC chassis in room 123 of B3203.
- (3) Place cross connect in room 123 to existing copper cable that goes to room 308B and install (1) wire from copper cable to (1) jack in room 308B area of B3203.
- (4) Test and label circuits between B1201 and B3203.

b. The contractor shall provide the following material:

- (1) 2 each T1AX T1 circuit cards (0110-0193)

- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (March 29, 2005).

5. SWR J1R3 7098 03

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to relocate fiber in B4110 for Rocketdyne due to removal of cabinets as outlined in OAO proposal dated March 18, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:

BOE-TEL:

- (1) Relocate existing 4-strand of multimode and 6-strand singlemode from cabinet 963 to cabinet 969 for the Redline system. Customer will relocate back board.
- (2) Relocate existing 12-strand multimode fiber cable from cabinet 963 that feeds B4120 video and move to new cabinet 1047. Customer will provide new fiber panel and couplers.
- (3) Relocate existing 12-strand multimode fiber cable from cabinet 963 that feeds B4122 video and move to new cabinet 1050. Customer will provide new fiber panel and couplers.
- (4) Relocate existing 4-strand of multimode fiber cable and Panduit outlet box from cabinet 963 to cabinet 969 that is used for the video teleconference unit. NISN will move video teleconference unit.
- (5) Test and label cables at both ends. Provide hard copies of fiber test.

- b. The contractor shall provide the following material:

- (1) 1 pack of Premier black tie wraps (739308)

- c. Schedule: The completion of this effort shall be 8 weeks after receipt of Fast Track approval (March 28, 2005).

6. SWR NJ00 L5AD 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install two circuits cards in existing UMC chassis in B1201 and B1000 as outlined in OAO proposal dated March 1, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:

- (1) Install (7) T1AX circuit cards in UMC1000 in room 106 of B1201.
- (2) Install (3) T1AX circuit cards in UMC1000 in room 112 of B1000.
- (3) Install (4) T1A circuit cards in UMC1000 in room 112 of B1000.
- (4) Cutover circuits from DDM1000 to UMC1000 in B1201 and B1000.
- (5) Remove old DDM1000 from B1201 and B1000 and send to redistribution

- b. The contractor shall provide the following material:

- (1) 10 each T1AX circuit cards (0110-0193)

- (2) 4 each T1A circuit cards (0110-0192)

c. Schedule: The completion of this effort shall be 8 weeks after receipt of Fast Track approval (April 4, 2005).

7. SWR NJ00 L5AL 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install Cat5e wiring in B1000, B1002, B1003 and B8100 to support NMCI printers as outlined in OAO proposal dated March 10, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

B1000

- (1) Install (1) Cat5e jack in room 123 back to room 105 in B1000.

B1002

- (2) Install (1) Cat5e jack in room 163 back to room 178 in B1002.
- (3) Install (1) Cat5e jack in room 2215 Hall back to room 2223 in B1002.
- (4) Install (1) Cat5e jack in room 2235 back to room 2223 in B1002.
- (5) Install (1) Cat5e jack in room 230E back to room 216 in B1002.
- (6) Install (1) Cat5e jack in room 263 back to room 295G in B1002.
- (7) Install (1) Cat5e jack in room 279 back to room 295G in B1002.
- (8) Install (1) Cat5e jack in room 290 back to room 295G in B1002.
- (9) Install (1) Cat5e jack in room 210 back to room 216 in B1002.
- (10) Install (1) Cat5e jack in room 211 back to room 216 in B1002.
- (11) Install (1) Cat5e jack in room 217 back to room 216 in B1002.
- (12) Install (1) Cat5e jack in room 202 back to room 118A in B1002.
- (13) Install (1) Cat5e jack in room 121 back to room 118A in B1002.
- (14) Install (1) Cat5e jack in room 103 back to room 118A in B1002.

B1003

- (15) Install (1) Cat5e jack in room 110 back to room 108 in B1003.
- (16) Install (1) Cat5e jack in room 12 Hall back to room 30A in B1003.
- (17) Install (1) Cat5e jack in room 152 back to room 30A in B1003.
- (18) Install (1) Cat5e jack in room 23 back to room 30A in B1003.

B8100

- (19) Install (1) Cat5e jack in room 103 back to room 101B in B8100.
- (20) Install (1) Cat5e jack in room 106 back to room 101B in B8100.
- (21) Install (1) Cat5e jack in room 203 back to room 202 in B8100.

b. The contractor shall provide the following material:

- (1) 5,000 feet of Belden Data Twist Five plenum (CMP-00423BEL-5U-06)
- (2) 42 each Ortronics blanks (148027)
- (3) 40 each Caddy J-hooks (184873)
- (4) 21 each Ortronics singlegang faceplates (148025)
- (5) 21 each Ortronics single T568A A/B Cat5e jacks (248941)
- (6) 21 each Caddy clips (157703)

- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (April 4, 2005).

8. SWR NJ00 L5AM 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install (2) T1AX T1 circuit cards in room 116 of B1201 and (2) T1AX T1 circuit cards in room 112 of B1000 to extend (2) T1 circuits to room 211 in B1000 for NAVOCEANO to support networks as outlined in OAO proposal dated March 7, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Install (2) T1AX circuit cards in existing UMC chassis in room 216 of B1201.
 - (2) Install (2) T1AX circuit cards in existing UMC chassis in room 112 of B1000.
 - (3) Place cross connect in room 112 to existing copper cable that goes to room 211 and install (2) wires from copper cable to (2) jacks in room 211 area in B1000.
 - (4) Test and label circuits between B1201 and B1000.
- b. The contractor shall provide the following material:
 - (1) 4 each T1AX T1 circuit cards (0110-0193)
- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (May 6, 2005).

9. SWR NM00 5R41 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install Cat6 wiring in B1100 South new addition to support the SIPR network for CNMOC as outlined in OAO proposal dated February 16, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Install Panduit raceway from the end of the conduit placed by other contractor to (11) jack locations on the 3rd floor of the new addition of B1100 South.
 - (2) Install (2) Cat6 wires from room 33347A thru conduit placed by other contractor and the new Panduit raceway to new jacks locations and terminate on (2) Cat6 jacks and place in singlegang faceplate and place in Panduit outlet boxes.
 - (3) Terminate the other end of the Cat6 wiring on existing patch panel in classified network room 33347A.
 - (4) Test and label both ends of wiring.
 - (5) Provide ODIN with redline drawings showing jack numbers and locations so that drawings can be updated.
- b. The contractor shall provide the following material:
 - (1) 5,000 feet of Systimax 2071 level 7 PVC wire (CM-00424AVA-7U-03) Red
 - (2) 50 each Panduit LD5 raceway (131156)
 - (3) 22 each Avaya MGS400-317 T568A/B single Cat6 jack (246750) Red

- (4) 11 each Systimax 2-port faceplate M12LE-262 (208596)
- (5) 11 each Panduit outlet boxes (201336)
- (6) 2 packs of Panduit inside corners LD5 (131142)
- (7) 2 packs of Panduit outside corners LD5 (131137)
- (8) 2 packs of Panduit right angle LD5 (131138)

- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (April 4, 2005).

10. SWR P203 5221 03

The contractor shall for the attendance of one (1) ODIN network person at Cisco Networks 2005 Conference in Las Vegas NV from June 19-24, 2005 as outlined in OAO proposal dated April 22, 2005.

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) ODIN will send one network person to the Cisco Networks 2005 Las Vegas Convention Center in Las Vegas, Nevada from June 19th thru June 24th 2005. The costs for this conference will include conference registration.
- b. No materials are required for this effort.
- c. Schedule: The completion of this effort shall be no later than June 24, 2005.

11. SWR PTLT 7A97 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to remove cabling and wiring from trailer located on north end of B4010 for MSS and take to Redistribution as outlined in OAO proposal dated April 6 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Remove existing Cat5 cable from room 117 out thru conduit to trailer.
 - (2) Remove existing protectors and give to OAO to put on shelf for future jobs.
 - (3) Get with OAO draftsman and show him where cable was removed on drawings
- b. No materials are required for this effort.
- c. Schedule: The completion of this effort shall be 1 week after receipt of Fast Track approval (April 21, 2005).

12. SWR PX00 054L 02

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install (2) Cat5e wires and jacks on the east wall of room 232A in B1100 for EPAGMPO as outlined in OAO proposal dated March 30, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Install (2) Cat5e wires to the east wall next to the column in room 232A.
 - (2) Install (2) Systimax Cat5e yellow jacks on wire that was installed in item (1) above and place in (1) 4-port faceplate.
 - (3) Terminate the other end of the wire on existing Cat5e patch panel in room 230.
 - (4) Install (1) caddy clip in sheetrock wall to hold faceplate with Cat5e jacks.
 - (5) Test and label wire at both ends.
- b. The contractor shall provide the following material:
 - (1) 80 feet of Systimax Cat5e plenum yellow wire (CMP-00424MAXB-6U-05)
 - (2) 2 each disposable asbestos suits
 - (3) 2 each Systimax MPS100E-123 Cat5e jack (221195) yellow
 - (4) 1 each caddy clip (157703)
 - (5) 1 each Systimax M14L-262 singlegang 4-port faceplate (197613)
- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (April 20, 2005).

13. SWR XJCY 5104 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install one 72 singlemode/12multimode fiber between B1100 South and B1201 to support telephone, networks, CATV, CCTV, fire alarm and EMCS services in B1100 South new addition for NASA as outlined in OAO proposal dated March 23, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
 - (1) Install (1) 72SM/12MM fiber cable from room 116 in B1201 to room 22228 in B1100 South.
 - (2) Install (1) LGX fiber panel in room 116 of B1201 and (1) LGX fiber panel in room 22228 of B1100 South.
 - (3) Terminate all fiber into ST connectors and place in LGX panels that were installed in item (2) above.
 - (4) Test and label fiber at both buildings.
 - (5) Provide OAO with redline drawing showing duct that fiber was placed in from B1201 to B1100 South.
- b. The contractor shall provide the following material:
 - (1) 2,700 feet of Siecor 12MM/72SM fiber cable (084XW4-TBD-D20)
 - (2) 168 each cool cure Consumables (142172)
 - (3) 144 each P3020A-C-125 singlemode ST connectors (157475)
 - (4) 144 each A3000 singlemode ST couplers (184326)
 - (5) 24 each P2020C-C-125 multimode ST connectors (170290)
 - (6) 24 each A2000 multimode ST connectors (184324)
 - (7) 2 each LST1U-144/9 termination shelf (172178)
 - (8) 2 packs of 1200ST panels (178743)
 - (9) 2 packs of Premier black tie wraps (739308)

- c. Schedule: The completion of this effort shall be 4 weeks after receipt of Fast Track approval (April 20, 2005).

14. SWR XK59 4TMP 11

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install (1) GFE 24 strand singlemode fiber cable from room 213 in B2204 through existing duct bank to room 115 of B2104 and install junction box and 4" EMT conduit on exiting rigid conduit coming from ground at B2104. NASA will provide 2750 ft of GFE 24-strand singlemode fiber cable, 1 each termination shelf and 1 pack 1000ST panels for termination shelf as outlined in OAO proposal dated April 5, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:

BOE-TEL will work:

- (1) Install (1) GFE 2-strand singlemode fiber cable from room 213 in B2204 to room 115 in B2104.
- (2) Install (2) GFE 200A LIU's in room 115 of B2104.
- (3) Install (1) 18" x 18" x 8" weatherproof junction box on existing 4" conduits on the outside of B2104.
- (4) Install (2) 4" EMT conduits from weatherproof junction box installed in item (3) up to the ceiling on the outside of B2104.
- (5) Terminate fiber into ST connectors and place in LIU's in room 115 of B2104.
- (6) Terminate fiber into ST connectors and place in existing LGX panel in room 213 of B2204.
- (7) Test and label both ends.

- b. The contractor shall provide the following material:

BOE-TEL:

- (1) 48 each cool cure consumables (142172)
- (2) 48 each P3020A-C-125 singlemode ST connectors (157475)
- (3) 48 each C3000A-2 couplers (105263)
- (4) 4 each 4" EMT connector
- (5) 4 each 4" EMT bushing
- (6) 4 each Avaya 10A panels for ST connectors (088980)
- (7) 2 each 4" x 10' EMT pipe
- (8) 1 pack Premier black tie wraps (739308)
- (9) 1 each 18" x 18" x 8" weatherproof junction box

- c. NASA will provide the following materials:

- (1) 2,750 feet of GFE 24-strand singlemode fiber cable
- (2) 1 each GFE LST1U-072/7 termination shelf (106722)
- (3) 1 pack of GFE 1000ST panels for termination shelf (106730)

- d. Schedule: The completion of this effort shall be 8 weeks after receipt of Fast Track approval (April 20, 2005).

15. SWR XK59 5596 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install copper cable and fiber from B1201 to new Saturn guard gate to support telephone and CCTV for NASA as outlined in OAO proposal dated March 30, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

a. The contractor shall be responsible for performance of the following tasks:

BOE-TEL:

- (1) Install (1) 12mm/12sm fiber cable from room 116 in B1201 out to new Saturn Guard Gate.
- (2) Install (1) 25-pair copper cable from room 116 in B1201 out to new Saturn Guard Gate.
- (3) Install (1) 4-pair PVC wire and (1) telephone jack in guard gate.
- (4) Install (2) LIU 200A's in new guard shack to place fiber cable.
- (5) Install (1) LGX panel in room 116 of B1201 to place fiber cable.
- (6) Install (1) 25-pair protector equipped with (25) 3B1EW protector units at guard gate and terminate 25-pair copper cable on it.
- (7) Ground protector to an approved ground at new guard gate.
- (8) Make 25-pair splice in cable vault in B1201 to existing 100-pair copper tail that goes up
- (9) Install (25) 4B1EW protector units in existing 100-pair protector in room 116 of B1201.
- (10) Test and label fiber cable at both ends.
- (11) Test and label 25-pair copper cable at both ends.
- (12) Test and label 4-pair station wire.
- (13) Provide a redline drawing showing fiber & copper path including manholes from B1201 to new guard gate.

OAO:

- (1) Install (1) singlemode fiber transceiver at new guard gate to be used to connect card access back to B1201.
- (2) Install (1) singlemode fiber transceiver in room 116 of B1201 to be used to connect card access back to new guard gate on Saturn drive.
- (3) Install (1) Cat6 cable from fiber transceiver at new guard gate on Saturn drive to card access equipment.
- (4) Install (1) Cat6 cable from fiber transceiver to network hub in room 116 of B1201.
- (5) Install fiber jumpers at guard gate and B1201 to activate the fiber transceivers at both buildings for card access.
- (6) Create new VLAN on switch in B1201 to connect to new card access server in B1110 and connect Cat6 jumper from fiber transceiver that was installed in item (2) above.

b. The contractor shall provide the following material:

- (1) 4,600 feet of Corning 12MM/12SM fiber cable (372-COR62-HYBD-12/12)
- (2) 4,600 feet of General 25-pair copper cable (E-002522-DFC)
- (3) 48 each cool cure consumables (142172)
- (4) 25 each Avaya protector modules 3B1EW (105114)
- (5) 25 each Avaya protector modules 4B1EW (104878)
- (6) 24 each P302A-C-125 singlemode ST connectors (157475)

- (7) 24 each C3000A-2 singlemode ST couplers (105263)
- (8) 24 each P2020C-C-125 multimode ST connectors (170290)
- (9) 24 each C2000A-2 multimode ST couplers (088987)
- (10) 2 each 3M 710-25 pair splice modules (1323807)
- (11) 2 each Avaya 200A LIU (128826)
- (12) 2 each Avaya 10A panels (088980)
- (13) 2 each MIL-RC3113-15-US 10/100 Base-TX singlemode transceiver (266752)
- (14) 1 each Avaya 489A 25-pair copper protector (195420)
- (15) 1 pack Premier black tie wraps (739308)
- (16) 1 each LST1U-72/7 termination shelf (106722)
- (17) 1 pack of 100ST panels (106730)
- (18) 1 each 1-meter duplex singlemode fiber jumper ST/ST (151986)
- (19) 1 each 2-meter duplex singlemode fiber jumper ST/ST (151987)
- (20) 1 each 5-meter duplex singlemode fiber jumper ST/ST (151989)

c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (April 19, 2005).

16. XK59 5TMP 06

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install (1) GFE managed network switch and removing unmanaged network switch in room 112 of B1201 for NASA security as outlined in OAO proposal dated March 18, 2005. Installation shall include labeling and configuration documentation network drawings.

a. The contractor shall be responsible for performance of the following tasks:

- (1) Install one Cisco 2950 in building 1201 in room 112 to replace the current Dell unmanaged switch.
- (2) Ensure new switch is on Ehealth
- (3) Ensure all network maps are updated
- (4) Prune all VLANS except for the management and security VLANS.
- (5) Update network drawing
- (6) Update security plan

b. NASA will provide the following material:

- (1) 1 each GFE Cisco 2950-24 network switch

c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (May 5, 2005).

17. SWR XK59 5212 01

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation and materials necessary to install fiber from B2204 to B2201 to support security CCTV camera installation as outlined in OAO proposal dated March 8, 2005. Installation shall include testing, labeling and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:
- (1) Install (1) 96-strand singlemode fiber cable and (1) GFE 12-strand fiber cable from room 213 in B2204 thru new duct bank to B2201 and then on new cable tray to room 121 in B2201.
 - (2) Install (1) 24-strand singlemode fiber cable from room 121 to room 129C in B2201.
 - (3) Install (1) 144-port LGX panel in room 213 of B2204.
 - (4) Install (1) 144-port LGX panel in room 121 of B2201.
 - (5) Install (2) 200A LIU panels in room 129C in B2201
 - (6) Terminate all fiber into ST connectors and place fiber into LGX panels and LIU panels at both buildings.
 - (7) Test and label fiber at both ends.
 - (8) Provide ODIN with redline drawing showing route taken in B2201 so that ODIN can update drawings.
- b. The contractor shall provide the following material:
- (1) 2,700 feet of Corning 96-strand singlemode fiber cable (372-COR8.3-LTD-96)
 - (2) 350 feet of Corning 24-strand singlemode fiber cable (372-COR8.3-LTD-24)
 - (3) 264 each cool cure consumables (142172)
 - (4) 240 each P3020A-C-125 singlemode ST connectors (157475)
 - (5) 216 each A3000 Singlemode ST coupler (184326)
 - (6) 72 each A2000 multimode ST coupler (184324)
 - (7) 24 each C3000A-2 singlemode ST couplers (105263)
 - (8) 24 each P2020C-C-125 multimode ST connectors (170290)
 - (9) 4 each 10A panels (088980)
 - (10) 2 each LST1U-144/9 termination shelf (172178)
 - (11) 2 packs 1200ST panels (178743)
 - (12) 2 each 200A LIU (128826)
 - (13) 1 pack Premier black tie wraps (739308)
- c. Schedule: The completion of this effort shall be 6 weeks after receipt of Fast Track approval (April 20, 2005).

3. Part II "Contract Administration Data", Item 4, is revised as indicated below to incorporate the increase of \$112,948.32 for these infrastructure upgrades:

Month/Mod	Description	Monthly Total	Actual Total To Date
May-05	Ordered Seats and Services	393,212.14	2,366,141.69
Apr-05	Catalog Services	5,216.36	186,325.28
Apr-05	Specialized Services	396.85	749.82
Mod 19	Infrastructure upgrades	71,472.80	371,738.03
	Fast Track Mods Authorized (but not incorporated by Mod)	112,948.32	112,948.32
	sub-total of ordered services	\$ 583,246.47	\$ 3,037,903.14
Apr-05	Less facility credit	-	-
Apr-05	Less outage credit	-	(604.88)
	Less retainage not earned	-	-
TOTAL		\$ 583,246.47	\$ 3,037,298.26

4. Payment Schedule: Invoicing and Payment for this modification will be made in accordance with Master Contract NAS5-98144, FAR 52.212-4: Commercial Items (May 1997) (Modified).
5. Reporting requirements: The contractor shall provide monthly status reports to the SSC DOCOTR, with a copy to the DOCO. These reports shall include, as a minimum, installation progress, and potential problem areas.
6. In consideration of the modification agreed to herein as complete equitable adjustment for the changes set forth, the Contractor hereby releases the Government from any and all liability under this delivery order for further equitable adjustments attributable to such facts or circumstances giving rise to these changes.
7. All other terms and conditions of this Delivery Order remain unchanged and in full force and effect.